



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0386; Project Identifier AD-2022-00336-E; Amendment 39-22001; AD 2022-07-13]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 model turbofan engines. This AD was prompted by an in-flight shutdown (IFSD) of an engine due to an air/oil heat exchanger leak caused by corrosion and subsequent investigation by the manufacturer that revealed additional air/oil heat exchanger leaks. This AD requires an inspection of the air/oil heat exchanger and, depending on the results of the inspection, replacement of the air/oil heat exchanger. This AD also provides instructions for storing an air/oil heat exchanger after inspection. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT 06118; phone: (860) 565-0140; email: help24@prattwhitney.com; website: <https://connect.prattwhitney.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0386.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0386; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for the Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Carol Nguyen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7655; email: carol.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

On November 9, 2021, a Boeing Model 777 airplane, powered by PW PW4077 engines, on a ferry flight from San Francisco, CA to Honolulu, HI, experienced an oil leak on the number 1 engine that resulted in an IFSD and air turnback to San Francisco, CA. A post-flight inspection revealed that the oil leak was from the air/oil heat exchanger. After this event, on December 19, 2021, the manufacturer was made aware of another oil leak related to the air/oil heat exchanger that was discovered during a post-

flight inspection after the first flight out of storage. Subsequent investigation revealed 19 air/oil heat exchanger leaks occurred on the affected engines during the past year, which is significantly higher than the three to four air/oil heat exchanger leaks typically occurring each year. After further investigation, the manufacturer determined that the air/oil heat exchanger leak was due to corrosion. The manufacturer published Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022, which provides instructions for performing an inspection of the air/oil heat exchanger and, depending on the results of the inspection, replacement of the air/oil heat exchanger. This special instruction also provides instructions for storing an air/oil heat exchanger after the inspection. This condition, if not addressed, could result in low oil pressure, failure of one or more engines, IFSD, loss of engine thrust control, reduced control of the airplane, and loss of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022. This special instruction specifies procedures for performing an inspection of the air/oil heat exchanger and, depending on the results of the inspection, replacement of the air/oil heat exchanger. This special instruction also specifies procedures for storing an air/oil heat exchanger after the inspection. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Other Related Service Information

The FAA reviewed Pratt & Whitney Special Instruction No. 255F-21, dated December 22, 2021. This special instruction describes procedures for performing an inspection of the air/oil heat exchanger and, depending on the results of the inspection, replacement of the air/oil heat exchanger.

AD Requirements

This AD requires an inspection of the air/oil heat exchanger within 30 days prior to the first flight after the effective date of this AD. Depending on the results of the inspection, this AD may require replacement of the air/oil heat exchanger. The air/oil heat exchanger may be inspected more than 30 days prior to the first flight after the effective date of this AD if the air/oil heat exchanger is subsequently stored in accordance with procedures from the manufacturer.

Interim Action

The FAA considers this AD to be an interim action. If final action is later identified, the FAA might consider additional rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies foregoing notice and comment prior to adoption of this rule. The Boeing Model 777 fleet with affected engines installed has been grounded after a fan blade-out event that occurred on February 20, 2021. According to the manufacturer, the lack of operation may have exacerbated corrosion on the air/oil heat exchanger. Both engines installed on the airplane may develop leaks on the air/oil heat exchangers. Since the Boeing Model 777 fleet will start to return to service soon, there is an increased risk that these leaks will occur during the first flight out of storage, and there is a risk of a dual-engine IFSD and loss of the airplane. The FAA considers inspection of the air/oil heat exchanger for leaks to be an urgent safety issue.

Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forego notice and comment.

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include “FAA-2022-0386 and Project Identifier AD-2022-00336-E” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Carol Nguyen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any

commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 108 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Inspect air/oil heat exchanger	2 work-hours x \$85 per hour = \$170	\$0	\$170	\$18,360

The FAA estimates the following costs to do any necessary replacement that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need this replacement.

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replace air/oil heat exchanger	0 work-hours x \$85 per hour = \$0	\$12,000	\$12,000

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-07-13 Pratt & Whitney Division: Amendment 39-22001; Docket No. FAA-2022-0386; Project Identifier AD-2022-00336-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Pratt & Whitney Division PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 model turbofan engines, with an installed air/oil heat exchanger that has accumulated any number of cycles since new (CSN) or cycles since last overhaul.

(d) Subject

Joint Aircraft System Component (JASC) Code 7921, Engine Oil Cooler.

(e) Unsafe Condition

This AD was prompted by an in-flight shutdown (IFSD) of an engine due to an air/oil heat exchanger leak caused by corrosion and subsequent investigation by the manufacturer that revealed additional air/oil heat exchanger leaks on the affected engines. The FAA is issuing this AD to prevent leaks in the air/oil heat exchanger. The unsafe condition, if not addressed, could result in low oil pressure, failure of one or more engines, IFSD, loss of engine thrust control, reduced control of the airplane, and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 30 days prior to the first flight after the effective date of this AD, perform an inspection for leaks of the air/oil heat exchanger in accordance with the Accomplishment Instructions, paragraph 3., of Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022.

(2) If any air/oil heat exchanger fails the inspection required by paragraph (g)(1) of this AD, before further flight, remove the air/oil heat exchanger and replace with a part eligible for installation.

(h) Definition

For the purpose of this AD, a “part eligible for installation” is:

- (1) A new air/oil heat exchanger with zero CSN, or
- (2) An overhauled air/oil heat exchanger with zero cycles since last overhaul, or

(3) An air/oil heat exchanger that has passed the inspection required by paragraph (g)(1) of this AD.

(i) Effect of Storage on Compliance Time

For performance of the inspection for leaks required by paragraph (g)(1) of this AD, the air/oil heat exchanger may be inspected more than 30 days prior to the first flight after the effective date of this AD if, after performing said inspection, the following are accomplished:

(1) The air/oil heat exchanger is stored in accordance with the Accomplishment Instructions, paragraph 6., of Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022; and

(2) The cumulative time between performance of the inspection and the first flight minus the time stored in accordance with paragraph (i)(1) of this AD does not exceed 30 days.

(j) Credit for Previous Actions

You may take credit for the actions required by paragraph (g)(1) of this AD if the inspection for leaks was performed before the effective date of this AD using the Accomplishment Instructions, paragraph 3., of Pratt & Whitney Special Instruction No. 255F-21, dated December 22, 2021.

(k) Special Flight Permit

Special flight permits, as described in 14 CFR 21.197 and 21.199, are permitted prior to compliance with paragraph (g)(1) of this AD, provided that the air/oil heat exchanger has first passed an inspection, performed within 60 days of the flight, performed in accordance with:

(1) The Accomplishment Instructions, paragraph 3., of Pratt & Whitney Special Instruction No. 255F-21, dated December 22, 2021, before the effective date of this AD, or

(2) The Accomplishment Instructions, paragraph 3., of Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (m) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(m) Related Information

For more information about this AD, contact Carol Nguyen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7655; email: carol.nguyen@faa.gov.

(n) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Pratt & Whitney Special Instruction No. 255F-21A, dated February 15, 2022.

(ii) [Reserved]

(3) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT 06118; phone: (860) 565-0140; email: help24@prattwhitney.com; website: <https://connect.prattwhitney.com>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, email: fr.inspection@nara.gov, or go to:
<https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on March 31, 2022.

Derek Morgan, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-08045 Filed: 4/14/2022 8:45 am; Publication Date: 4/15/2022]